Cell Biology

EFFECT OF *IN VIVO* ADMINISTRATION OF ANTI-CTLA-4 mAB AND IL-12 ON THE CELLULAR IMMUNE RESPONSE OF ORALLY TOLERIZED MICE

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Oral tolerance is defined as the temporary loss of systemic immunological responsiveness to a specific soluble antigen after ingestion of that same antigen. Previous studies performed in our laboratory have shown that the co-administration of anti-CTLA-4 mAb and IL-12 at the time of low dose antigen feeding is able to prevent the suppression of the serum IgG2a antibody response. Since the differentiation of IgG2a-secreting plasma cells is controlled by Th1 cells, this results suggest Th1 cells are allowed to develop in mice treated with anti-CTLA-4 mAb and IL-12. To further explore this hypothesis, experiments were designed to determine if this same treatment could prevent the suppression of Th1 cellular immune responses in orally tolerized mice. Results showed that PLN cell proliferation, while inhibited in control mice, was not significantly suppressed in orally tolerized mice treated with anti-CTLA-4 mAb and IL-12. In addition, levels of IFN-γ in experimental mice were also restored to normal levels. These results support the supposition that $CD4^+$ T cells are allowed to proliferate and differentiate into Th1 cells when IL-12 is present and interaction between B7 and CTLA-4 is prevented.